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EXAMINER	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/806,023	CURCIO ET AL.	
	Examiner	Art Unit	
	RYAN J. JAKOVAC	4121	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *03/22/2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-47* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-47* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on _____ is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *10/20/2005,3/22/2004*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

This action is responsive to communications filed on 03/22/2004.

Claims 1-47 are pending.

Claims 1-47 are rejected.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

1. Claims 32 and 47 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 32, the scope of the claim is unclear because "X" and "Z" are not defined. The variables are undefined since X is a time interval with no end point. Z is also undefined. Therefore the scope of the claim is rendered indefinite.

Regarding claim 47, it is unclear what a communication protocol is. It is unclear whether the protocol is a computer program or a data structure. Therefore it is unclear what statutory category the invention applies to. It is also unclear what a "definition" is.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

2. Claim 42 rejected under 35 U.S.C. 101. The claimed invention is directed to a computer program, which is non-statutory subject matter. Since a computer program is merely a set of instructions capable of being executed by a computer, the computer program itself is not a process and is therefore nonstatutory functional descriptive material. (See MPEP 2106.01)

3. Claim 47 rejected under 35 U.S.C. 101. It is unclear whether the protocol is a data structure or a computer program. Claim 47 is therefore interpreted by the examiner to be a claim directed to a computer program and is there rejected as being non-statutory (see above).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-7, 33, and 43-47 rejected under 35 U.S.C. 102(b) as being anticipated by RFC 2327, SDP: Session Description Protocol (hereinafter SDP).

Regarding claim 1 and 43-46, SDP teaches a method, a computer program product, a system, a sender, and a receiver for transmitting common data from one sender to a plurality of receivers within a transmission session (Chapter 4.1, Client sends a multicasts an announcement packet (i.e. sends to a plurality of receivers).), comprising: communicating at least one session parameter, which is related to said transmission of said common data within said transmission session (Chapter 5, Session parameters are included such as media information and session name which describe the information transmitted.), to said plurality of receivers via a communication protocol (Chapter 5, Session Description Protocol is used.); and transmitting said common data from said sender to said plurality of receivers within said transmission session (Chapter 4-5, The SDP session description is transmitted through the multicast.).

Regarding claim 2 SDP teaches the method according to claim 1, wherein said at least one session parameter is communicated to said plurality of receivers before or during the establishment of said transmission session (Chapter 4-5, The multicast announcements includes a SDP session description which includes parameters such as media information and session name.).

Regarding claim 3, SDP teaches the method according to claim 1, wherein said communication protocol is a Session Description Protocol SDP (Chapter 4-5, Session Description Protocol is used in a multicast message.).

Regarding claim 4, SDP teaches the method according to claim 1, wherein said common data is transmitted from said sender to said plurality of receivers at least partially over an Internet Protocol (IP) based network (Chapter 5.1 discloses an IP multicast session.).

Regarding claim 5, SDP teaches the method according to claim 1, wherein said common data is transmitted from said sender to said plurality of receivers in a broadcast or multicast operation (Chapter 5.1 discloses an IP multicast session. Chapter 4.1, Client sends a multicasts an announcement packet (i.e. sends to a plurality of receivers).).

Regarding claim 6, SDP teaches the method according to claim 1, wherein said common data is streaming data or non-streaming data (Chapter 5, Session parameters are included such as media information and session name which describe the information transmitted.).

Regarding claim 7, SDP teaches the method according to claim 1, wherein said common data is real-time data or non-real-time data (Chapter 5, Session parameters

are included such as media information and session name which describe the information transmitted.).

Regarding claim 33, SDP teaches the method according to claim 1, wherein said communication protocol can be used to communicate the number of said plurality of receivers to said plurality of receivers (Chapter 6 discloses attributes assigned to describe properties of the session.).

Regarding claim 47, SDP teaches a communication protocol, comprising: a definition of at least one session parameter that is related to a transmission of common data from a sender to a plurality of receivers within a transmission session (Chapter 6 discloses attributes assigned to describe properties of the session.).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 8-9, and 37-41 are rejected under 35 U.S.C. 103(a) as being unpatentable over SDP in view of applicant's admitted prior art (hereinafter AAPA).

Regarding claim 8, SDP teaches the method according to claim 1, SDP does not teach but AAPA discloses wherein said common data is transmitted from said sender to said plurality of receivers at least partially over a wireless network (Specification, page 1, paragraph 4 discloses transmission of data over radio (i.e. wireless network).).

Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to combine wherein said common data is transmitted from said sender to said plurality of receivers at least partially over a wireless network as taught by AAPA with the method of SDP in order to provide flexible and efficient mechanisms to send common information from one sender to multiple receivers (AAPA, paragraph [0002]).

Regarding claim 9, SDP teaches the method according to claim 8, SDP does not teach but AAPA teaches wherein said wireless network is a mobile network that at least partially implements a Multimedia Broadcast/Multicast Service (MBMS) as defined by a Third Generation Partnership Project (3GPP) (Specification, page 1, paragraph 4 discloses transmission of data over radio (i.e. wireless network) in a MBMS as defined by 3GPP.).

Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to combine wherein said wireless network is a mobile network that at least partially implements a Multimedia Broadcast/Multicast Service (MBMS) as defined by a Third Generation Partnership Project (3GPP) as taught by AAPA with the method of

SDP in order to provide flexible and efficient mechanisms to send common information from one sender to multiple receivers (AAPA, paragraph [0002]).

Regarding claim 37, SDP teaches the method according to claim 1, SDP does not teach but AAPA teaches wherein said transmission of said common data from said sender to said plurality of receivers is at least partially controlled by a File Delivery Over Unidirectional Transport FLUTE protocol (Specification paragraph [0011], FLUTE is used in multicast networks.).

Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to combine wherein said transmission of said common data from said sender to said plurality of receivers is at least partially controlled by a File Delivery Over Unidirectional Transport FLUTE protocol as taught by applicant's admitted prior art with the method of SDP in order to send common data from one IP based entity to a plurality of IP based hosts as well as for the delivery of large and small files to many IP based hosts as well as for the delivery of large software updates to many IP based hosts simultaneously (AAPA, paragraph [0011]).

Regarding claim 38, the combination of SDP and AAPA teaches the method according to claim 37, the combination of SDP and AAPA does not expressly disclose wherein said communication protocol contains a FLUTE channel attribute that specifies how many channels are used by the sender to transmit said common data to said plurality of receivers within said transmission session. However, these differences are

only found in the nonfunctional descriptive material and are not functionally involved in the steps recited. Thus, this descriptive material will not distinguish the claimed invention from the prior art in terms of patentability. See *In re Gulack*, 703 F.2d 1381, 1385, 217 USPQ 401, 404 (Fed. Cir. 1983); *In re Lowry*, 32 F.3d 1579, 32 USPQ2d 1031 (Fed. Cir. 1994).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to include the nonfunctional descriptive material with the claimed invention because such data does not functionally relate to the steps in the method claimed and because the subjective interpretation of the descriptive material does not patentably distinguish the claimed invention.

Regarding claim 39, the combination of SDP and AAPA teaches the method according to claim 37, the combination of SDP and AAPA does not expressly disclose wherein said communication protocol contains a FLUTE Transmission Session Identifier TSI attribute that specifies the value of a TSI within said transmission session. However, these differences are only found in the nonfunctional descriptive material and are not functionally involved in the steps recited. Thus, this descriptive material will not distinguish the claimed invention from the prior art in terms of patentability. See *In re Gulack*, 703 F.2d 1381, 1385, 217 USPQ 401, 404 (Fed. Cir. 1983); *In re Lowry*, 32 F.3d 1579, 32 USPQ2d 1031 (Fed. Cir. 1994).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to include the nonfunctional descriptive material with

the claimed invention because such data does not functionally relate to the steps in the method claimed and because the subjective interpretation of the descriptive material does not patentably distinguish the claimed invention.

Regarding claim 40, the combination of SDP and AAPA teaches the method according to claim 37, the combination of SDP and AAPA does not expressly disclose wherein said communication protocol contains a media description that specifies a media that is used within said transmission session (SDP, Section 5, SDP includes parameters for the media comprising the session).

Regarding claim 41, the combination of SDP and AAPA teaches the method according to claim 37, the combination of SDP and AAPA does not expressly disclose wherein said communication protocol contains a connection data that specifies an address of a channel used within said transmission session (SDP, Section 5 discloses connection data including port (i.e. address of channel.).

6. Claim 21 and 36 rejected under 35 U.S.C. 103(a) as being unpatentable over SDP.

Regarding claim 21, SDP teaches the method according to claim 1, SDP does not expressly disclose wherein said communication protocol contains a repair Uniform

Resource Identifier (URI) attribute that specifies a URI of said repair server, however, these differences are only found in the nonfunctional descriptive material and are not functionally involved in the steps recited. Thus, this descriptive material will not distinguish the claimed invention from the prior art in terms of patentability. See *In re Gulack*, 703 F.2d 1381, 1385, 217 USPQ 401, 404 (Fed. Cir. 1983); *In re Lowry*, 32 F.3d 1579, 32 USPQ2d 1031 (Fed. Cir. 1994).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to include the nonfunctional descriptive material with the claimed invention because such data does not functionally relate to the steps in the method claimed and because the subjective interpretation of the descriptive material does not patentably distinguish the claimed invention.

Regarding claim 36, the combination of SDP and Max teaches the method according to claim 1, the combination of SDP and Max does not expressly disclose wherein said communication protocol contains a content description attribute that specifies how said sender indicates to said plurality of receivers the URI where a content description of said common data is stored. However, these differences are only found in the nonfunctional descriptive material and are not functionally involved in the steps recited. Thus, this descriptive material will not distinguish the claimed invention from the prior art in terms of patentability. See *In re Gulack*, 703 F.2d 1381, 1385, 217 USPQ 401, 404 (Fed. Cir. 1983); *In re Lowry*, 32 F.3d 1579, 32 USPQ2d 1031 (Fed. Cir. 1994).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to include the nonfunctional descriptive material with the claimed invention because such data does not functionally relate to the steps in the method claimed and because the subjective interpretation of the descriptive material does not patentably distinguish the claimed invention.

7. Claims 10-15 rejected under 35 U.S.C. 103(a) as being unpatentable over SDP in view of RMT BB Forward Error Correction Codes (hereinafter RMT).

Regarding claim 10, SDP teaches the method according to claim 1, SDP does not teach but RMT teaches wherein said communication protocol contains a Forward Error Correction (FEC) attribute that specifies at least an FEC encoding scheme that is used for said transmission of said common data within said transmission session (RMT Chapter 3.1, The FEC encoding ID is a numeric index that specifies a FEC scheme).

Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to combine wherein said communication protocol contains a Forward Error Correction (FEC) attribute that specifies at least an FEC encoding scheme that is used for said transmission of said common data within said transmission session as taught by RMT with the method of SDP in order to transmit data with forward error correction and to provide reliability in IP multicast systems (RMT Section 1, 1.1).

Regarding claim 11, the combination of SDP and RMT teaches the method according to claim 10, wherein said FEC attribute further specifies an FEC encoding identifier (RMT Chapter 3.1, The FEC encoding ID is a numeric index that specifies a FEC scheme).

Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to combine wherein said FEC attribute further specifies an FEC encoding identifier as taught by RMT with the method of SDP in order to transmit data with forward error correction and to provide reliability in IP multicast systems (RMT Section 1, 1.1).

Regarding claim 12, SDP teaches the method according to claim 1, SDP does not teach but RMT teaches wherein said communication protocol contains an FEC machine attribute that specifies the location from which FEC decoding information can be downloaded (RMT, Section 1.1, paragraph 1, The receivers report back to the sender (i.e. the receivers read an attribute that specifies the location of the sender) the number of source symbols they are missing (for error correcting).).

Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to combine wherein said communication protocol contains an FEC machine attribute that specifies the location from which FEC decoding information can be downloaded as taught by RMT with the method of SDP in order to provide reliability in IP multicast systems (RMT, section 1.1).

Regarding claim 13, the combination of SDP and RMT teaches the method according to claim 12, wherein said FEC decoding information has to be downloaded from said location by at least one of said plurality of receivers in an error-free fashion (RMT, Section 1.1, paragraph 1, The receivers report back to the sender (i.e. the receivers read an attribute that specifies the location of the sender) the number of source symbols they are missing (for error correcting).).

Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to combine wherein said FEC decoding information has to be downloaded from said location by at least one of said plurality of receivers in an error-free fashion as taught by RMT with the method of SDP in order to provide reliability in IP multicast systems (RMT, section 1.1).

Regarding claim 14 the combination of SDP and RMT teaches the method according to claim 12, wherein at least one of said plurality of receivers uses a Hypertext Transport Protocol (HTTP) or a Transport Control Protocol (TCP) based point-to-point connection to download said FEC decoding information (RMT, Section 1.1, paragraph 1, In an IP multicast the receivers report back to the sender (i.e. The receivers reading an attribute that specifies the location of the sender in this point to point connection.) the number of source symbols they are missing (for error correcting).).

Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to combine wherein at least one of said plurality of receivers uses a

Hypertext Transport Protocol (HTTP) or a Transport Control Protocol (TCP) based point-to-point connection to download said FEC decoding information as taught by RMT with the method of SDP in order to provide reliability in IP multicast systems (RMT, section 1.1).

Regarding claim 15, the combination of SDP and RMT teaches the method according to claim 12, wherein at least one of said plurality of receivers uses a time dispersion function to determine a time when the downloading of said FEC decoding information from said location starts (RMT, sections 1 and 1.1, When packet loss occurs, instead of waiting until packets are resent, the receiver can use other subsequent equal number of packets that arrive to reassemble the object (i.e. downloading of said decoding information). The packets can either be proactively transmitted or they can explicitly be requested (i.e. uses time dispersion function) by the receivers.).

Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to combine wherein at least one of said plurality of receivers uses a time dispersion function to determine a time when the downloading of said FEC decoding information from said location starts as taught by RMT with the method of SDP in order to dramatically increase the scalability of the protocol to orders of magnitude of more receivers (RMT, section 1, last paragraph).

8. Claims 16-18 rejected under 35 U.S.C. 103(a) as being unpatentable over SDP in view of U.S. 7,224,702 to Lee.

Regarding claim 16, SDP teaches the method according to claim 1, SDP does not teach but Lee teaches wherein said communication protocol contains a forward error correction buffering attribute that specifies buffering requirements imposed on said plurality of receivers during the transmission of said common data from said sender to said plurality of receivers in said transmission session (Lee, Fig 11 and Fig 12 disclose buffering requirements for receivers as an attribute of a forward error correction. See also, column 3, lines 5-22.).

Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to combine wherein said communication protocol contains a forward error correction buffering attribute that specifies buffering requirements imposed on said plurality of receivers during the transmission of said common data from said sender to said plurality of receivers in said transmission session as taught by Lee with the method of SDP in order to reduce traffic overhead and achieve scalability (Lee, abstract).

Regarding claim 17, the combination of SDP and Lee teaches the method according to claim 16, wherein said buffering requirements are a buffering delay, a buffering memory size, or both (Lee, Fig. 12 discloses buffer requirement sizes. See also, Col 19, line 60 to Col 20 line 35.).

Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to combine wherein said buffering requirements are a buffering delay, a buffering memory size, or both as taught by Lee with the method of SDP in order to reduce traffic overhead and achieve scalability (Lee, abstract).

Regarding claim 18, SDP teaches the method according to claim 1, SDP does not teach but Lee teaches wherein said communication protocol contains a congestion control attribute that specifies a congestion control scheme that is used for said transmission of said common data within said transmission session (Lee, Col. 20, lines 16-35, The operating parameters of the ARQ and FEC algorithms minimize traffic overhead.).

Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to combine wherein said communication protocol contains a congestion control attribute that specifies a congestion control scheme that is used for said transmission of said common data within said transmission session as taught by Lee with the method of SDP in order to reduce traffic overhead and achieve scalability (Lee, abstract).

9. Claims 19, 20, 22-32, 34, and 35 rejected under 35 U.S.C. 103(a) as being unpatentable over SDP in view of U.S. 2004/0078624 to Maxemchuk et al (hereinafter Max).

Regarding claim 19, SDP teaches the method according to claim 1, SDP does not teach but Max teaches wherein in a case that said common data is not correctly received at least one of said plurality of receivers, at least parts of said common data are transmitted from a repair server to said at least one receiver within a repair session (Max, Abstract, The repair server transmits missing packets to recipients in the IP multicast session.).

Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to combine wherein in a case that said common data is not correctly received at least one of said plurality of receivers, at least parts of said common data are transmitted from a repair server to said at least one receiver within a repair session as taught by Max with the method of SDP in order to repair IP multicast sessions (Max, Abstract).

Regarding claim 20 the combination of SDP and Max teaches the method according to claim 19, wherein said repair session is a point-to-point or a point-to-multipoint repair session (Max, Abstract, The repair server transmits missing packets to recipients in the IP multicast session.).

Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to combine wherein said repair session is a point-to-point or a point-to-multipoint repair session as taught by Max with the method of the combination of SDP and Max in order to repair IP multicast sessions (Max, Abstract).

Regarding claim 22, the combination of SDP and Max teaches the method according to claim 19, wherein said communication protocol contains a repair threshold attribute that specifies an error threshold, and wherein said error threshold is related to a reception quality of said common data as received by said plurality of receivers from said sender within said transmission session (Max, paragraph [0011], Multicast receiver reports include the fraction of data packets from the source lost by a retransmit server, the cumulative number of packets from the source that have been lost by a retransmit server, and an estimate of the statistical variance of the packet interarrival time experienced by a retransmit server.).

Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to combine wherein said communication protocol contains a repair threshold attribute that specifies an error threshold, and wherein said error threshold is related to a reception quality of said common data as received by said plurality of receivers from said sender within said transmission session as taught by Max with the method of the combination of SDP and Max in order to be able to use these metrics to rank the plurality of servers as well as to provide missing packets and repair service in multicast sessions (Max, abstract).

Regarding claim 23, the combination of SDP and Max teaches the method according to claim 22, wherein an entering into said repair session by one of said plurality of receivers depends on the relationship between a reception quality of said common data as received by said receiver from said sender within said transmission

session and said error threshold (Max, paragraph [0011], Multicast receiver reports include the fraction of data packets from the source lost by a retransmit server, the cumulative number of packets from the source that have been lost by a retransmit server, and an estimate of the statistical variance of the packet interarrival time experienced by a retransmit server.).

Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to combine wherein an entering into said repair session by one of said plurality of receivers depends on the relationship between a reception quality of said common data as received by said receiver from said sender within said transmission session and said error threshold as taught by Max with the method of the combination of SDP and Max in order to be able to use these metrics to rank the plurality of servers as well as to provide missing packets and repair service in multicast sessions (Max, abstract).

Regarding claim 24, combination of SDP and Max teaches the method according to claim 22, wherein said error threshold is quantified in terms of an error unit, an error value, a measurement window unit and a measurement window value (Max, paragraph [0011], Multicast receiver reports from the retransmit servers include the fraction of data packets from the source lost by a retransmit server, the cumulative number of packets from the source that have been lost by a retransmit server, an estimate of the statistical variance of the packet interarrival time experienced by a retransmit server, and the round trip propagation delay between the source and a retransmit server which may be

used as an approximate measure of distance between the source and the retransmit server.).

Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to combine wherein said error threshold is quantified in terms of an error unit, an error value, a measurement window unit and a measurement window value as taught by Max with the method of the combination of SDP and Max in order to be able to use these metrics to rank the plurality of servers as well as to provide missing packets from multicast sessions (Max, abstract).

Regarding claim 25, combination of SDP and Max teaches the method according to claim 22, wherein said error threshold is quantified in terms of an error value (Max, paragraph [0011], Multicast receiver reports from the retransmit servers include the fraction of data packets from the source lost by a retransmit server, the cumulative number of packets from the source that have been lost by a retransmit server, an estimate of the statistical variance of the packet interarrival time experienced by a retransmit server, and the round trip propagation delay between the source and a retransmit server which may be used as an approximate measure of distance between the source and the retransmit server.).

Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to combine wherein said error threshold is quantified in terms of an error value as taught by Max with the method of the combination of SDP and Max in order to

be able to use these metrics to rank the plurality of servers as well as to provide missing packets from multicast sessions (Max, abstract).

Regarding claim 26, combination of SDP and Max teaches the method according to claim 22, wherein a plurality of error thresholds is used for said transmission session, and wherein said error thresholds are explicitly or implicitly labeled (Max, paragraph [0011], Multicast receiver reports from the retransmit servers include the fraction of data packets from the source lost by a retransmit server, the cumulative number of packets from the source that have been lost by a retransmit server, an estimate of the statistical variance of the packet interarrival time experienced by a retransmit server, and the round trip propagation delay between the source and a retransmit server which may be used as an approximate measure of distance between the source and the retransmit server.).

Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to combine wherein a plurality of error thresholds is used for said transmission session, and wherein said error thresholds are explicitly or implicitly labeled as taught by Max with the method of combination of SDP and Max in order to be able to use these metrics to rank the plurality of servers as well as to provide missing packets from multicast sessions (Max, abstract).

Regarding claim 27, the combination of SDP and Max teaches the method according to claim 19, wherein said communication protocol contains a backoff-mode attribute that specifies a backoff mode, and wherein said backoff mode provides information on when a receiver that did not correctly receive said common data from said sender within said transmission session can start a request for said repair session (Max, Paragraph [0010], The repair server detects missing packets and initiates repair session using an ordered list.).

Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to combine wherein said communication protocol contains a backoff-mode attribute that specifies a backoff mode, and wherein said backoff mode provides information on when a receiver that did not correctly receive said common data from said sender within said transmission session can start a request for said repair session as taught by Max with the method of the combination of SDP and Max in order to provide missing packets and repair service in multicast sessions (Max, abstract).

Regarding claim 28, the combination of SDP and Max teaches The method according to claim 25, wherein said communication protocol contains a backoff-mode attribute that specifies a backoff mode, wherein said backoff mode provides information on when a receiver that did not correctly receive said common data from said sender within said transmission session can start a request for said repair session, wherein a plurality of backoff modes is used for said transmission session, and wherein at least two of said error thresholds are linked to at least two of said backoff modes, respectively

(Max, Paragraph [0010], The repair server detects missing packets and initiates repair session using an ordered list. Paragraph [0014] A second mode of a repair session is disclosed in which a bypass session is used. Paragraph [0011] discloses related error thresholds.).

Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to combine wherein said communication protocol contains a backoff-mode attribute that specifies a backoff mode, wherein said backoff mode provides information on when a receiver that did not correctly receive said common data from said sender within said transmission session can start a request for said repair session, wherein a plurality of backoff modes is used for said transmission session, and wherein at least two of said error thresholds are linked to at least two of said backoff modes, respectively as taught by Max with the method of the combination of SDP and Max in order to provide missing packets and repair service in multicast sessions (Max, abstract).

Regarding claim 29, the combination of SDP and Max teaches the method according to claim 28, wherein said backoff modes are assigned to a receiver in dependence on the relationship between a reception quality of said common data as received by said receiver during said transmission session and a reception quality as demanded by said error thresholds (Max, paragraph [0011], Multicast receiver reports from the retransmit servers include the fraction of data packets from the source lost by a retransmit server, the cumulative number of packets from the source that have been lost by a retransmit server, an estimate of the statistical variance of the packet interarrival

time experienced by a retransmit server, and the round trip propagation delay between the source and a retransmit server which may be used as an approximate measure of distance between the source and the retransmit server.).

Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to combine wherein said backoff modes are assigned to a receiver in dependence on the relationship between a reception quality of said common data as received by said receiver during said transmission session and a reception quality as demanded by said error thresholds as taught by Max with the method of the combination of SDP and Max in order to provide missing packets and repair service in multicast sessions (Max, abstract).

Regarding claim 30, the combination of SDP and Max teaches the method according to claim 27, the combination of SDP and Max does not expressly disclose wherein said information is represented by a backoff unit, a backoff value and a backoff window (Max, Paragraph [0010], The repair server detects missing packets and initiates repair session using an ordered list. Paragraph [0014] A second mode of a repair session is disclosed in which a bypass session is used. Paragraph [0011] discloses related error thresholds.).

Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to combine wherein said information is represented by a backoff unit, a backoff value and a backoff window as taught by Max with the method of the

combination of SDP and Max in order to provide missing packets and repair service in multicast sessions (Max, abstract).

Regarding claim 31, the combination of SDP and Max teaches the method according to claim 27, the combination of SDP and Max does not expressly disclose wherein said information is represented by a variable that indicates if absolute or relative timing is used, and a time value. (Max, paragraph [0011], Multicast receiver reports from the retransmit servers include the fraction of data packets from the source lost by a retransmit server, the cumulative number of packets from the source that have been lost by a retransmit server, an estimate of the statistical variance of the packet interarrival time experienced by a retransmit server, and the round trip propagation delay between the source and a retransmit server which may be used as an approximate measure of distance between the source and the retransmit server.).

Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to combine wherein said information is represented by a variable that indicates if absolute or relative timing is used, and a time value as taught by Max with the method of the combination of SDP and Max in order to provide missing packets and repair service in multicast sessions (Max, abstract).

Regarding claim 32, the combination of SDP and Max teaches the method according to claim 27, wherein said information comprises an error threshold and three values X, Y and Z, and wherein at least one of said plurality of receivers, if a reception quality of said common data as received by said at least one receiver from said sender within said transmission session is better than a reception quality dictated by said error threshold, said request for said repair session is started randomly within a time interval of duration X, wherein said interval starts at the end of said transmission session; and otherwise starting said request for said repair session randomly within a time period between Y and Y+Z, wherein Y is counted from the end of said transmission session (Max, paragraph [0011], Multicast receiver reports from the retransmit servers include the fraction of data packets from the source lost by a retransmit server, the cumulative number of packets from the source that have been lost by a retransmit server, an estimate of the statistical variance of the packet interarrival time experienced by a retransmit server, and the round trip propagation delay between the source and a retransmit server which may be used as an approximate measure of distance between the source and the retransmit server.).

Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to combine wherein said information comprises an error threshold and three values X, Y and Z, and wherein at least one of said plurality of receivers, if a reception quality of said common data as received by said at least one receiver from said sender within said transmission session is better than a reception quality dictated by said error threshold, said request for said repair session is started randomly within a time interval

of duration X, wherein said interval starts at the end of said transmission session; and otherwise starting said request for said repair session randomly within a time period between Y and Y+Z, wherein Y is counted from the end of said transmission session as taught by Max with the method of the combination of SDP and Max in order to provide missing packets and repair service in multicast sessions (Max, abstract).

Regarding claim 34, the combination of SDP and Max teaches the method according to claim 19, the combination of SDP and Max does not expressly disclose wherein said communication protocol contains a repair type parameter attribute that specifies if said repair session can be a point-to-point session, a point-to-multipoint session, or both (Max, abstract, The repair server maintains an ordered list of the retransmit servers that are most likely to have buffered copies of packets missing from the session.).

Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to combine wherein said communication protocol contains a repair type parameter attribute that specifies if said repair session can be a point-to-point session, a point-to-multipoint session, or both as taught by Max with the combination of SDP and Max in order to provide missing packets and repair service in multicast sessions (Max, abstract).

Regarding claim 35, the combination of SDP and Max teaches the method according to claim 19, wherein said communication protocol contains a repair token

attribute that specifies the type of said repair session, or information on which parts of said common data that is not correctly received at at least one of said plurality of receivers within said transmission session will be transmitted from said repair server to said at least one receiver within said repair session, or both (Max, paragraph [0010], When the repair server detects that there are packets missing from the session it has received, it uses the ordered list to sequentially request the missing packets from respective ones of the plurality of retransmit servers.).

Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to combine wherein said communication protocol contains a repair token attribute that specifies the type of said repair session, or information on which parts of said common data that is not correctly received at at least one of said plurality of receivers within said transmission session will be transmitted from said repair server to said at least one receiver within said repair session, or both as taught by Max with the combination of SDP and Max in order to provide missing packets and repair service in multicast sessions (Max, abstract).

Conclusion

10. The related art made of record and not relied upon is considered pertinent to applicant's disclosure. U.S. 7,296,205 discloses data repair in a one to many transmission system.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to RYAN J. JAKOVAC whose telephone number is (571)270-5003. The examiner can normally be reached on Monday through Friday, 7:30 am to 5:00 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Taghi T. Arani can be reached on (571) 272-3787. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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